

# ***Rapid Spacecraft Development Office News***

***March 1999***

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## **A message from the RSDO Chief, Jim Adams:**

### **About the newsletter...**

You will probably notice that we have implemented some changes in this issue of the RSDO newsletter. Most notably, we transitioned to a web-based format to expand the flexibility of our content and layout, and to provide increased readability and convenience for our readers. The newsletter can be accessed as before from the RSDO home page on the Internet at <http://rsdo.gsfc.nasa.gov/>. Contractors from the firm, Booz, Allen & Hamilton, Inc., produced this issue of the RSDO newsletter, and will be responsible for production of future issues as well. Finally, we are striving to establish a regular schedule where we publish the newsletter three times annually. Please examine this issue of the newsletter, and let us know your thoughts regarding the new format and schedule. Any comments or suggestions can be sent to me at [Jim.Adams@gsfc.nasa.gov](mailto:Jim.Adams@gsfc.nasa.gov) or to Lena Braatz (BA&H) at [Braatz\\_Lena@bah.com](mailto:Braatz_Lena@bah.com).

The primary focus of this issue is to address the concerns raised during the first annual RSDO Report Card. Elsewhere in the newsletter you will find information about recent RSDO contract awards, an explanation of our new Relevant Experience and Past Performance process, an announcement about the winners of our RSDO logo contest, and more.

### **About our personnel...**

In the last issue of the newsletter, I mentioned some impending personnel changes which have now gone into effect. Sharon Collignon has successfully assumed the post of Rapid Spacecraft lead contracting officer which was vacated by Billie Smith last summer. In addition, we have a new RSDO staff member, Leif Grotos. Leif previously worked for Goddard's Orbital Launch Services Project where he managed the Medlite contract. He is a contracts specialist, and will be assisting Sharon with various aspects of the procurement process. Welcome, Leif.

Also, Nikki Mayo, our secretary, is leaving RSDO to pursue a career in resource analysis. She was offered a position in GSFC's Systems, Technology, and Advanced Concepts (STAAC) business office, and will be supporting the Flight Instrument Development Office. Congratulations Nikki, you will be missed!

## RSDO Report Card

Since the inception of the Rapid Spacecraft Development Office in October 1997, NASA and industry have worked together in new ways to effect several exciting new undertakings. Programs such as Rapid I and Quick Ride benefit all entities involved, saving time, money and effort. While we have already achieved many successes together, we at RSDO continually desire to enhance and better our services.

To mark the first anniversary of the RSDO, management arranged for an independent organization to conduct a survey of our staff, customers, and vendors to examine the effectiveness of our programs and to determine ways to further improve our projects. Gary Dzurek from the human resources office at GSFC carried out the poll, successfully collecting feedback from nearly all parties involved in the RSDO mission. The results of the survey are summarized in the "RSDO Report Card" below.

Overall, the survey results indicate that participants both internal and external to the RSDO are generally pleased with the way the organization conducts business. The survey did, however, bring to light a few minor issues, most of which were addressed at the subsequent RSDO retreat in October 1998. One of these issues <sup>3</sup>/<sub>4</sub> consistency between customer evaluations <sup>3</sup>/<sub>4</sub> is discussed in an article contained in this newsletter (Proposal Evaluations). We would like to extend our thanks to all who participated in this survey.

RSDO REPORT CARD			
Party Surveyed	Pluses	Minuses	Rating
Customers	<ul style="list-style-type: none"><li>Extremely pleased with service</li><li>Happy with products</li><li>All would use RSDO process again</li></ul>	<ul style="list-style-type: none"><li>None identified</li></ul>	9.2 out of 10.0, rating RSDO service
Vendors	<ul style="list-style-type: none"><li>Pleased with process in general</li></ul>	<ul style="list-style-type: none"><li>Concerned about volume of opportunities</li><li>Desire to establish consistency between customer evaluations</li></ul>	8.1 out of 10.0, on a combined scale rating Communication, Competence, Consistency, Integrity, and Value of RSDO
Staff	<ul style="list-style-type: none"><li>Enjoy working at RSDO</li><li>Have a sense of inclusion and contribution</li></ul>	<ul style="list-style-type: none"><li>Have a few minor management issues</li></ul>	8.4 on 10.0, rating overall team effectiveness

## **Proposal Evaluations**

### **Consistency of Evaluations**

During the recent RSDO customer/vendor/staff survey, several vendors expressed concerns about the lack of consistency in proposal evaluations. The goal of this article is to address this issue and suggest methods to mitigate future problems.

Every mission supplies its own evaluation team consisting of about 5-6 people. The character of each team is based on the experiences, expertise, and home organization of the individual team members. Because of the potentially diverse backgrounds of the evaluators, and the differences in requirements for each mission, each proposal evaluation process will vary in emphasis and detail.

The RSDO provides a Mission Integration Manager (MIM) and a Contracting Officer (CO) to each evaluation team. The role of the MIM and CO is to provide expertise on the RSA, to ensure that each vendor is given a "fair opportunity" in that competition, and to provide background data on core systems and contracts. RSDO cannot impose evaluation standards onto the evaluation teams, due to mission differences.

So how can a vendor make the best of this situation? In the Instructions section of the RFO, RSDO generally asks the mission representatives to identify what they foresee as the mission drivers or areas of emphasis. However, these instructions do not necessarily address all the issues that might affect the evaluation. The best way for a vendor to gauge the preferences of the mission is to communicate with mission representatives.

Before each RFO a "heads-up" email is sent to vendors identifying a contact person for the mission. Call, email, or otherwise communicate with these individuals. A communication blackout does not take effect until the final RFO is released. Find out what the mission representatives are concerned about, and what they are expecting. Learn about the mission and determine an approach that meets with the mission concept.

### **Proposal 101: Tips for improving the technical section**

OK, the evaluations will have some variance by the nature of the process. Besides having up front communications with mission representatives, what can vendors do to ensure their proposals meet mission expectations? Most evaluators, despite their various technical concerns, are most interested in getting a spacecraft partner who offers the lowest overall risk to the success of the mission.

Your main goal is to get the message to the evaluators that you understand the issues involved with undertaking a particular mission and that you are able to propose reasonable solutions. One way to accomplish this is to thoroughly address the areas of concern specific to the mission, and also address and explain any perceivable weaknesses of your approach.

For example, if a subsystem is unchanged from the core subsystem, it is fair game to reference the core specifications (make sure you include the core paragraph number). Be careful to make sure that other modifications have not trickled into the "unchanged" subsystem. A hypothetical example of such an error would be if a proposed spacecraft has deleted an S-band omni from the communication subsystem complement, yet the proposal references a safe-hold core paragraph which still utilizes the omni. However, you can assist the evaluators in accurately assessing your proposal by presenting all the information in the proposal, rather than referencing contract specifications.

In addition, please remember to include all information that is specifically requested in the RFO, such as schedules. RSDO personnel do check the page count before the evaluation begins, so make sure the instructions are heeded. The time deadline for proposal submission is not negotiable. If a problem exists with the Web Page, or there are other issues on the NASA side, we will work with you to assure on-time submission.

Your feedback on the process is also appreciated. We have found the "lessons learned" sessions beneficial from the standpoint of improving our operations. Please continue to be open about issues you may have with our business practices.

## **Price Proposal: How to complete the Price Page**

RSDO has taken effort to reduce the standard proposal "Price Volume" to a single "Price Page". It is important to fill out this page correctly, because even the abbreviated form we use adds information that will help you win a competition. If the form is not filled out correctly, uncertainty may creep into the minds of the evaluators about your understanding of the effort. For instance, if the evaluators cannot deduce that you have accounted for addition or subtraction of a feature, they may have less confidence in your understanding of the task.

The first section of the Price sheet deals only with the core spacecraft. The "line items" here should only deal with items affecting the Core Not To Exceed (NTE) price, as if no modifications were required. Adjustments for inflation, reduction of uncertainties, actuals, etc are what is contained here. No Options or Mission Unique Modifications should be booked here.

The second section is for options that are contained on the core contract (NTE Options). Each NTE Option should be identified separately with a proposal price for each. There is a rather large gray area for the circumstances where there are Mission Unique Modifications to the NTE option. Take the case where an NTE option is for adding one actuator, but the mission requires two actuators. It would be fair to put the whole modification in either this section or in the Mission Unique Modifications section. For clarity, it would be better not to split up the modification by putting one actuator in each section. A good rule is that if the modification to the option moves the bid price up, put it in the Mission Unique section. By the way, the evaluation teams do check to make sure that mission unique modifications are not previously priced NTE options.

The third section is for Mission Unique Modifications. This section is for all the items that do not fit in the Core or NTE Option sections. Again, it is in your interest to clearly delineate what the additions and subtractions are in your bid, so that the evaluators realize your grasp of the task. For instance, you could write, "ACS Mods \$XX," and describe what is included somewhere else in the proposal. However, it is much more comprehensible if you write, "Add two sensors \$VV; Delete Actuator -\$ZZ; Mod Software \$QQ, etc."

Sometimes, a mission will request an option to be priced that may or may not be exercised. These options should be priced independently, such that the decision to implement the option does not affect the rest of the offer.

*By Ron Miller/ RSDO Mission Integration Manager*

## **Rapid II Is in the Works!**

RSDO is currently in the planning stages for the second Rapid Spacecraft Acquisition (Rapid II). Rapid II will include several changes and improvements, incorporating lessons learned and further streamlining government satellite acquisitions. The most significant modification will be the switch from Federal Acquisition Regulations (FAR) Part 15 to Part 12. This switch will allow NASA to closely model the commercial satellite market, including contract terms and conditions. Toward this end, RSDO has been conducting market research with industry satellite providers (via Requests For Information announced in the Commerce Business Daily) and with commercial satellite operators (via direct contact.). We hope to use the information gathered in this market research to construct a Master Rapid II contract consistent with commercial practices.

Another Rapid II characteristic you will be hearing about is the "On-Ramp" feature. This attribute will allow new spacecraft to be added to the catalog during the period of performance. By allowing new spacecraft access to the catalog at any time, the period of performance of the Rapid II contract can be extended to 5-7 years, and the standard of acceptance criteria for spacecraft heritage can be increased. Currently, it is envisioned that a spacecraft will have to complete environmental testing (as a minimum) before it becomes eligible to be considered for addition to the catalog.

In Rapid II, RSDO plans to maintain the contractual language allowing satellite vendors to provide satellite operations, and is contemplating the addition of contractual language allowing satellite vendors to furnish launch services. If the provision to purchase launch services is added, Rapid II will have the capability to provide true delivery on-orbit. RSDO is also considering the incorporation of contractual language allowing the government to purchase flight hardware at a level below the full satellite level from Rapid II spacecraft vendors.

The current schedule for the Rapid II acquisition calls for a draft Request For Proposal (RFP) to be released in June 1999 for industry comments, with the final RFP release scheduled for July 1999. Proposals would be due in August 1999, with multiple awards targeted for January 2000.

As always, we are willing to discuss any ideas about improving our processes, so please contact Jim Adams (W.James.Adams.1@gsfc.nasa.gov) or Ron Miller (Ronald.A.Miller.1@gsfc.nasa.gov) with any questions or comments about this upcoming program.

*By Ron Miller/ RSDO Mission Integration Manager*

## **RSDO Awards Geo Quick Ride Study Contracts**

GSFC's RSDO recently awarded funds to four separate companies for the purpose of investigating the feasibility of utilizing commercial geostationary satellite platforms to host secondary science payloads. The contracts, each valued at \$200K and expected to last 90 days, were awarded to the following companies:

- ❖ Hughes Space and Communications, Los Angeles, CA
- ❖ Space Systems/Loral, Palo Alto, CA
- ❖ Lockheed Martin Missiles and Space, Sunnyvale, CA
- ❖ Orbital Sciences Corporation, Germantown, MD

A satellite in geosynchronous (GEO) orbit remains "fixed" with respect to the earth's surface, since its orbital period is identical to that of the Earth. This unique orbit allows satellite sensors to continuously monitor specific regions on the Earth. There are a wealth of scientific projects that could make use of such an orbit, but the price of independently launching a geosynchronous vehicle is prohibitive.

Although many such satellites are launched each year by the commercial sector, matching secondary payloads to hosts has proved difficult. The problem in the past has been that NASA is unable to fund a project that does not have a guaranteed host vehicle. At the same time, it has traditionally been difficult to secure a host for secondary science missions because satellite owners are concerned that the secondary payload will adversely affect the primary mission.

The Geo Quick Ride Studies are expected to alleviate many of the difficulties experienced with matching hosts and payloads. These studies will demonstrate that such secondary payloads will not pose significant risk to host missions. In addition, information from the studies will also be used to define the first level of interface requirements and constraints which will be levied on secondary payloads seeking a Quick Ride aboard a commercial GEO satellite. Knowledge of these requirements is vital to scientists as they develop their sensors, since typical instrument development takes about 36 months, and the build cycle for GEO commercial communications satellites is approaching 12 months.

Successful implementation of the geostationary opportunities on the Quick Ride program will benefit both the host and secondary payload organizations. The host organization will realize a cost benefit (pre-launch cash flow and post-launch transponder lease) while incurring very little risk to the primary mission. Simultaneously, a new field of opportunities will open up for the scientific community. In fact, information gained from the Geo Quick Ride studies will be used to support development efforts for NASA's New Millennium Program, many of which may require geosynchronous placement .

### **And the RSDO Logo Contest Winners Are...**

We are proud to announce the winners of the RSDO logo contest. The final design, displayed throughout this publication, was created by combining elements from multiple winning entries. Clayton Stokes, a member of the Hubble Space Telescope team at GSFC, designed the RSDO text, itself. Kim Betters, Amanda Poupore, and Lacie Retaskie (all students at the Carney-Nadeau School in Carney, Michigan) originated the background design. Samantha Ceroy, a preschooler from Crofton, Maryland suggested the color scheme, including the vibrant magenta border. The combined effort that resulted in this outstanding new logo demonstrates a theme vital to the fulfillment of the RSDO's mission – success often requires the united endeavors of many individuals. Thanks to all involved!



## **GeoScience Request for Information Results**

Several RSDO vendors participated in the Advanced Geosynchronous Studies (AGS) RFI that was released in mid-1998. This article is to let you know what NASA has been doing with the data you provided, and how that data has enabled NASA (and others) to seriously consider performing science in GEO. Soon after AGS RFI responses were received, the AGS office was disbanded. This has not stopped the progress of getting science to GEO as you will see below.

Following evaluation of the RFI results (by NASA and NRL), it became evident that the capability existed to mount a multiple instrument mission for GEO science within a reasonable "enabling cost". (The enabling cost was defined as SC bus, Launch Vehicle, and SC Operations.) Several agencies expressed interest in participating in such a mission, effectively spreading the enabling prices over several agencies.

During the preliminary efforts aimed at identifying participants for the mission, it became apparent that the opportunity existed to set up a framework for a series of missions. The basic concept is to match requirements of various instruments (technical, schedule, longitude) into a flight, and then compete for the bus through RSDO. It is conceivable that several flights could be mounted, utilizing the appropriate spacecraft and launch vehicle combination. Please note that no mission has been defined to date, but the process is underway to form a consortium of interested agencies.

*By Ron Miller/ RSDO Mission Integration Manager*

## **New Business**

### **USAF Selects a Vendor for Coriolis Mission**

On February 25, 1999, the Rapid Spacecraft Development Office (RSDO) announced the selection of Spectrum Astro, Inc. of Gilbert, AZ. as the spacecraft vendor for a U.S. Air Force test mission called Coriolis. The Coriolis space vehicle will be designed to carry two payloads – Windsat and a Solar Mass Ejection Imager (SMEI). Windsat is a Navy instrument being built by the Naval Research Laboratory (Washington, DC) that will passively measure ocean surface wind vectors. SMEI is an U.S. Air Force (USAF) Research Laboratory experiment that will observe solar activity and solar mass ejections in visible light with the goal of more accurately predicting geomagnetic disturbances to orbiting satellites. The Space Test Program office at Kirtland AFB (Albuquerque, NM) will manage the delivery order, which is valued at approximately \$36.4 million.

This selection marks the first use of the RSDO's unique spacecraft catalog by a U.S. Government agency other than NASA. The entire spacecraft acquisition cycle, from release of the draft Request for Offers to selection, took just two months, representing a dramatically shorter timeframe than most typical NASA and USAF acquisition cycles. The evaluation team was led by USAF Test Program personnel from Kirtland AFB, and included personnel from the Naval Research Laboratory, NASA, Aerospace Corporation, and the University of Boston. This potentially complex multi-agency procurement proceeded remarkably smoothly, due to the exceptional cooperative efforts provided by personnel from each participating agency. Congratulations to all who enabled this notable acquisition!

The space vehicle procurement began in June 1998, when the U.S. Air Force issued a Request for Offer (RFO) for three accommodation studies valued at \$150,000 each. In July 1998 three vendors were down selected for the studies from the eight RSDO vendors. Awards for the studies went to Ball Aerospace & Technologies Corp. (Boulder, CO), TRW Space and Electronics Group (Redondo Beach, CA) and Spectrum Astro, Inc. (Gilbert, AZ). The accommodation studies phase concluded with the report deliveries in October 1998.

After a review of the studies, the U.S. Air Force issued the RFO for the spacecraft order to the three study vendors in January 1999. The selection of a single vendor and space vehicle occurred the following month. The delivery order for the satellite was issued in March 1999.

The Coriolis space vehicle will be placed into a 98.7 degree, 830 km circular orbit by a Titan II rocket scheduled to launch from Vandenberg AFB, CA on December 15, 2001, and will be collecting data continuously during its three-year mission lifetime.

## **The Contracting Officer's Corner**

### **Relevant Experience and Past Performance (RE&PP) Process Modified**

Traditionally, the RE&PP information that is requested from vendors is presented to evaluators at a high-level, mainly focusing on the company's overall past mission successes and lessons learned. Data typically provided in proposals is general and often lacks substantial detail about systems, subsystems, and lower mission components. Whereas this general information is sufficient in providing an overall RSA contract classification of the participating vendors, it conveys little about what each company has achieved relative to a particular customer and the mission at hand. Several recent solicitations have continued in this vein, only to have participants later realize that the same result awaited: all proposing vendors were deemed more than adequate on a macro scale, but on a micro scale RE&PP discriminators were difficult to determine.

To address this difficulty, RSDO is changing the way that RE&PP information is acquired. RE&PP information is now requested about the inner workings of the spacecraft, with the intent of obtaining information that is more relevant to each particular mission and customer. To accomplish this the proposal requests are written so as to ascertain the spacecraft's makeup by first asking the participating vendors to identify the subsystems and components proposed for use on the customer's spacecraft. Vendors are asked to list which past missions they have used those same systems on, to identify the modifications required to those subsystems to accommodate those past missions, to determine if those past missions were successes or failures (with an accompanying explanation associated with the failures), and finally to relate those elements to the components identified to be necessary for the customer's mission. In this manner each customer can directly relate his required spacecraft elements to the successes the vendor has previously achieved.

It is foreseen that successive iterative improvements in this process may be necessary, based on the results obtained and the uniqueness of both the customers and the missions. However, the success of a satellite is often determined at the subsystem/component level, and we anticipate that an evaluation of vendors' past experience and performance at that level will best depict what is being offered for each mission.

*By Scott Greatorex/RSDO Mission Integration Manager*

### **Government Furnished Property Notice**

Risk of Loss continues to be a hot topic at RSDO. Questions concerning instrument responsibility persist. In an effort to eliminate the confusion, the RSDO will be addressing such questions as "Who is responsible for the loss or damage of a Government provided instrument?" and "When does instrument responsibility transfer from the contractor to the Government?" Look for the answers to these questions on the RSDO web site sometime in the next month.

### **Don't Forget ...**

Please remember to consider small or disadvantaged businesses when selecting your new subcontractors. Making this effort may even enable you to meet the Small and Disadvantaged Business (SDB) goals contained in your RSA IDIQ contract.